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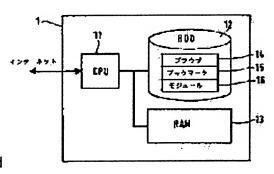
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# (54) METHOD FOR MANAGING BOOKMARK IN INTERNET BROWSER

## (57)Abstract:

PROBLEM TO BE SOLVED: To provide a work station, which has an Internet browser and can be flexibly managed at speed, which is not so slow, by storing a bookmark in a bookmark file and periodically updating the bookmark file with information downloaded from a remote server. SOLUTION: A work station 1 has a non-volatile storage device HDD 12 provided with an Internet browser 14 and a bookmark file 15. When calling the Internet browser 14, the Internet browser 14 is loaded to a main storage device RAM 13 of the work station 1 and executed by a processor CPU 11. In the case, a server making data for bookmark file update usable is accessed through a data network at a fixed



interval. Data are loaded through the data network to the main storage device RAM 13 and compared with the bookmark file 15 and the bookmark file 15 is updated with the data.

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## **CLAIMS**

## [Claim(s)]

[Claim 1] The approach characterized by being the approach of managing the bookmark in the Internet browser (14), and for a bookmark being memorized by the local bookmark file (15), and updating a local bookmark file (15) periodically by the data from a remote server (2).

[Claim 2] It is the approach according to claim 1 by which an explanation title is not updated although an explanation title is assigned to a part of bookmark [ at least ], respectively, an explanation title is memorized by the bookmark file (15) with a related bookmark and only each related bookmark is updated.

[Claim 3] The approach according to claim 1 by which a bookmark file (15) is updated whenever it calls the Internet browser (14).

[Claim 4] The approach according to claim 1 of being 1 time per day [ at most ], although a bookmark file (15) is updated whenever it calls the Internet browser (14).

[Claim 5] The approach according to claim 1 of being the schema as which a bookmark specifies the protocol which should be used, Server Name, pass, and URL that consists of file names, respectively.

[Claim 6] The approach according to claim 1 by which a reference file is loaded from a remote server (2), a reference file is compared with a bookmark file (15), and the entry updated within the reference file although the entry contained only in a reference file was transmitted to the bookmark file (15) and was contained in both files is also updated within a bookmark file (15).

[Claim 7] The approach according to claim 1 for which user authentication is performed before renewal of a bookmark file (15), and renewal of a bookmark file (15) depends on a user.

[Claim 8] The approach according to claim 1 by which it is performed before renewal of a bookmark file (15) calls the Internet browser (14).

[Claim 9] The approach according to claim 8 by which the call of updating and the Internet browser (14) is continuously performed using a batch file.

[Claim 10] The approach according to claim 8 a bookmark file (15) contains a version number.

[Claim 11] The approach according to claim 1 by which the data of a remote server are compared with the data of the further remote server.

[Claim 12] It is the workstation characterized by the means for being a workstation (1) equipped with a nonvolatile storage (12) including the bookmark file (15) for the Internet browser (14) and the Internet browsers (14), and updating the means and bookmark file (15) for a workstation (1) being connected to a data network (3), and accessing a remote server (2) through a data network (3) by the data from a remote server (2).

[Claim 13] The server for offering the data for using an approach according to claim 1 or 11, and updating a bookmark file (15) (2).

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### DETAILED DESCRIPTION

[Detailed Description of the Invention] [0001]

[Field of the Invention] This invention relates to the workstation which equips the method of managing the bookmark in the Internet browser of a publication to the preamble of claim 1, and the preamble of claim 12 with the Internet browser of a publication.

[0002]

[Description of the Prior Art] The Internet browser is known widely and, generally is used. A browser is a program which enables it to access the Internet resource. If the Internet browser is used, the file of a HTML (Hypertext Markup Language) format can be loaded and displayed. Moreover, according to the Internet browser, FTP (file transfer protocol) can be used and a file server can also be accessed. Furthermore, an electronic mail program can be called from the Internet browser, and an electronic mail can also be transmitted to the address in the Internet. Such an Internet browser can also be used with smaller data networks, such as an enterprise network, and the so-called intranet again.

[0003] In order to arrange the resource of a large number which can be used by the Internet and to keep the important source in mind, a user can leave the so-called bookmark to his Internet browser. A bookmark is memorized by list form or the hierarchy tree structure, this list is called, a user's mouse is only clicked on an entry, and a user can return to the source "was kept in mind" in mind always. Both Microsoft Internet Explorer and Netscape Commmunicator operate in this way. [0004] One of the faults of this approach is that the bookmark which the Internet address changed frequently, therefore was often memorized is no longer the newest thing. Furthermore, since a user can use a bookmark only by a user's workstation own [ that ], this approach lacks in flexibility. A bookmark is lost, other workstations or after re-installing the Internet browser. Therefore, it is frequently again found [ that the important resource of the Internet is not found again, or ] only after long retrieval.

[0005] Richard Paper [ / else / Keller / M.] Computer "A bookmarking service for organizing and sharingURLs (book marking service for composing and distributing URL)" Networks and ISDN Systems The service for offering access to the bookmark by the network base from 29(1997) pp.1103-1114 is known. This service can be accessed even from where [ on the Internet ], and is offered by the proxy server. A proxy server has the 1st storage region for the object for individual bookmarks, and options, and the 2nd storage region for bookmarks assigned to an user group. Enquiry of a bookmark is held by the method of retrieval by keyword. Enquiry is complicated and resembles database enquiry or the Internet search engine rather than the display of the individual bookmark by the list base which had concordance to the user until now. Therefore, generally this solution will not be accepted. Since a bookmark must be memorized on a proxy server, therefore it must be transmitted at every access through the Internet, the minus side in a rate brings a result of the comparison with the bookmark file memorized locally. [0006]

[Problem(s) to be Solved by the Invention] Therefore, a one division target of this invention is more flexible compared with the approach of the conventional technique, and is offering the approach of the bookmark management without the loss of a remarkable rate. Other objects of this invention are offering a workstation manageable with the speed which is not flexible and so slow rather than it has

the Internet browser and can set a bookmark on the conventional technique. Other objects of this invention are offering the server for performing this approach. [0007]

[Means for Solving the Problem] These objects are attained by the description of claims 1, 12, and 13, respectively. The still more advantageous mode of this invention is specified to a subordinate claim.

[0008] This invention will become clearer if description of the following related with two operation gestalten of this invention with an attached drawing is referred to.
[0009]

[Embodiment of the Invention] although the fundamental concept of this invention is boiled as usual and memorizes the bookmark on a workstation locally to a bookmark file, it is the information downloaded from the remote server, and updates this bookmark file periodically. Whenever updating calls the Internet browser, it can also be performed, or it can also be performed only once per day. [0010] Reference of drawing 1 shows the workstation 1 connected to the data network 3. The data network 3 can be made into the Internet or the intranet which is an enterprise network. The server 2 is also connected to the data network. A server 2 is located in remoteness from a workstation 1. [0011] On the workstation 1, the Internet browser which can be used for accessing, the resource, for example, the HTML page, in a data network, is installed. The address of a resource is memorizable to a local bookmark file for consecutive reference as a bookmark of a URL (uniform resource locator) format. A bookmark file is memorized by the nonvolatile storage of a workstation. [0012] In the approach by this invention, a bookmark file is periodically updated by the data from a remote server. With this operation gestalt, whenever this calls the Internet browser, it is performed. [0013] A server 2 is the form of the reference file containing a reference bookmark, and enables it for the data for updating to come to hand through a data network. A workstation 1 accesses a server 2 through a data network, and downloads a reference file. A local bookmark file is compared with the downloaded reference file by updating actuation. The entry contained only in a reference file is imported at a bookmark file. Although contained in both files, the entry updated within the reference file is also updated within a bookmark file. On the other hand, it is guaranteed that a user receives by this at least one bookmark basic set specified in advance in the reference file after renewal of a bookmark file. It can update, when a bookmark is maintained within a mid gear, i.e., a server, and an Internet address changes by this technique on the other hand. Therefore, a user can always use the newest bookmark satisfactorily.

[0014] Each bookmark shows one resource in a data network. URL of the resource shown is memorized as a bookmark. URL consists of the schema which specifies the protocol which should be used, Server Name, pass, and a file name. Current allowance of the following types is carried out as a schema.

[0015]

[A table 1]

A table I	
方式	使用法
ftp	ファイルトランスファプロトコル
http	ハイパーテキストトランスファプロトコル
gopher	ゴーファブロトコル
mailto	電子メールアドレス
news	USENET=1-Z
nntp	NNTPアクセスを使用するUSENET ニュース
telnet	対話型セッションへの参照
wais	ワイドエリアインフォメーション <del>サー</del> ビス
file	ホスト指定のファイル名
prospero	プロスペロディレクトリサービス

表1:スキーマのタイプ

The following is an example of URL.

[0016] http://www.alcatel.com/news/983010.htm "http" specifies a schema and a colon follows as a separator. "www.alcatel.com" specifies the server in which this resource is located. Pass is a directory "/news" and the resource itself is prescribed by the file name "983010. htm." [0017] The advanced syntax of the future for the Internet resources is already examined. This is called URN (uniform resource name) and is [ current ] under deliberation by IETF (Internet Engineering Task Force). This URN will also become what was suitable similarly as a bookmark to the approach by this invention.

[0018] It is advantageous that a user is attested with his own identifier and/or password before renewal of a bookmark file. If it does so, the renewal of a consecutive bookmark file will be dependent on a user. That is, a server will make a different reference file available by the user group to which a user or each user belongs.

[0019] <u>Drawing 2</u> is the outline block diagram of the workstation 1 by which the approach by this invention is performed. The workstation 1 is connected to the data network. A workstation 1 has the nonvolatile storage HDD 12 including the Internet browser 14 and the bookmark file 15. At the time of the call of the Internet browser 14, the Internet browser 14 is loaded to the main storage RAM 13 of a workstation 1, and is performed by the processor CPU 11. The server which makes the data for bookmark file updating available is accessed by every call of the fixed spacing 14, i.e., the Internet browser, or one day through a data network. Data are loaded to main storage 13 through a data network, it is compared with the bookmark file 15, and the bookmark file 15 is updated with data. As for a nonvolatile storage 12, program routine or a program module 16 performs comparison and updating, when it is loaded to main storage 13 including program routine or a program module 16 and performs.

[0020] According to the advantageous mode of this invention, updating is especially performed before starting of the Internet browser. Batch processing which uses a batch file can attain this, and if this is performed, it will update first and, subsequently will start the Internet browser. Thus, the conventional Internet browser can be operated by the approach by this invention.

[0021] As for a bookmark file, it is advantageous that a version number is included. Thereby, a bookmark file becomes possible [judging whether it is newer than the reference file downloaded from the server]. When it is not the newest, renewal of a bookmark file will be performed. [0022] In a bookmark file, a user can assign an explanation title to each bookmark. This explanation title cannot but be a part of bookmark file, and is not updated by the reference file. That is, even if the address in a data network changes, this does not change. Therefore, it is easy to treat the bookmark which was able to give such an explanation title for a user. In this case, a local bookmark file does not need to form meta-level between a reference file and the bookmark which can be actually used within the Internet browser, and does not need to memorize the bookmark file updated in the nonvolatile storage. It is enough just to update within main storage temporarily, the entry (i.e., the bookmark itself) of a bookmark file. Subsequently, these entries are again loaded from a server, when it is saved till completion of the Internet browser and is newly called. It is also possible to perform updating actuation by this invention, whenever it accesses a bookmark.

[0023] A bookmark is memorized by two or the bookmark file beyond it, and can also be combined by the Internet browser again. Moreover, a server is possible also for providing a bookmark with two or a different reference file beyond it. This is suitable when the reference file for users, the reference file for user groups to which a user belongs, and a comprehensive reference file are offered. In this case, as for the display of the bookmark in the Internet browser, it is advantageous to choose from which reference file each bookmark is coming by emphasizing a bookmark using a color different, for example etc. so that a user can identify.

[0024] It is guaranteed by the reference file offered by the server by each workstation by which a user starts the Internet browser that a user finds the basic set of at least one bookmark specified in advance. Furthermore, a reference file is maintainable on a central concentration target. That is, the bookmark on whether it exists any longer and the corrected address can be revised or deleted with a mid gear. Moreover, it is also advantageous if a user can give the write permission to his reference file at least on a server. Thus, the user itself can add a new bookmark to his individual reference file.

[0025] Another desirable operation gestalt of this invention is shown in <u>drawing 3</u>. The workstation 1 is connected to the data network 3. Through this data network 3, a workstation can access the 1st remote server 2 and can download the reference file for updating an internal bookmark file. The 1st server 2 can access two further servers 31 and 32 in order, data can be downloaded in the form of the further reference file, and the reference file of the 1st server is updated by this. Thus, the renewal of automatic of the reference file of the 1st server 2 is possible.

[0026] The Lotus domino (Lotus Domino) server which enables it to use for a HTML page, being able to consider as a database server, for example, generating automatically is sufficient as the further server. The reference file containing all the bookmarks effective now that point out this server can be taken out from the content of the database on a database server. By such further reference file, the reference file of the 1st server can be updated periodically and automatically by the advantageous method. When this approach is performed among some servers, the logic network where a bookmark is updated automatically is produced.

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### DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the workstation which has a dialog by the approach by this invention, and a server.

[Drawing 2] It is the block diagram of the workstation by this invention.

[Drawing 3] It is drawing showing a network equipped with some servers which compare a reference file.

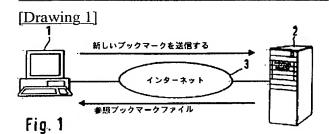
[Description of Notations]

- 1 Workstation
- 2 Remote Server
- 3 Data Network
- 11 Processor CPU
- 12 Nonvolatile Storage
- 13 Main Storage RAM
- 14 Internet Browser
- 15 Bookmark File
- 16 Program Routine or Program Module
- 31 32 Further server

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## **DRAWINGS**



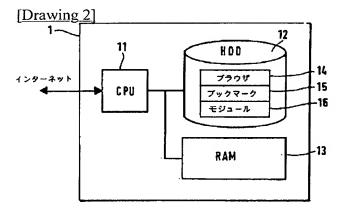
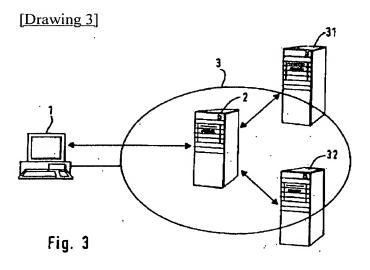


Fig. 2



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